

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P561235

Luminaire Tested: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561235
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD
Description: 1X4 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3058.0 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

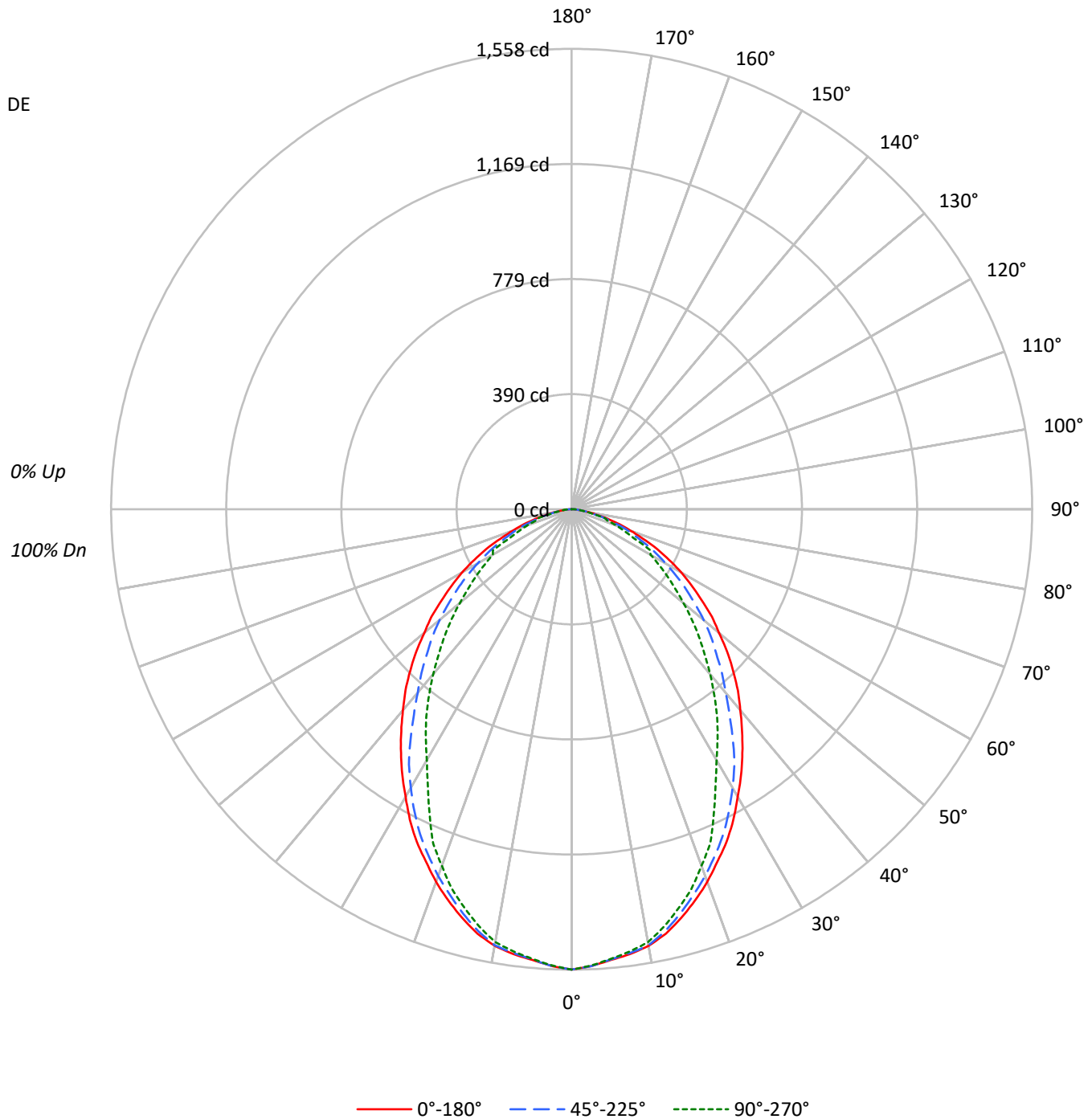
Input Watts (W): 33.3
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P561235

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P561235

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4192	4192	4192
5°	4135	4130	4125
10°	4099	4094	4065
15°	3988	3948	3893
20°	3842	3780	3677
25°	3684	3604	3379
30°	3492	3380	3044
35°	3307	3123	2816
40°	3119	2847	2562
45°	2940	2632	2316
50°	2722	2443	2066
55°	2518	2213	1850
60°	2307	1977	1657
65°	2029	1731	1468
70°	1672	1516	1247
75°	1330	1161	1218
80°	893	837	781
85°	556	667	778

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 2940 cd/sqm



TEST NUMBER: P561235

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.0	4.7
10°-20°	397.9	13.0
20°-30°	550.9	18.0
30°-40°	587.5	19.2
40°-50°	535.9	17.5
50°-60°	419.9	13.7
60°-70°	273.6	8.9
70°-80°	121.2	4.0
80°-90°	26.0	0.9
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1093.9	35.8
0°-40°	1681.3	55.0
0°-60°	2637.1	86.2
0°-90°	3058.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3058.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1558	1558	1558	1558	1558	
5°	1531	1529	1529	1527	1527	145
15°	1432	1432	1417	1403	1397	402
25°	1241	1234	1214	1170	1138	570
35°	1007	1000	951	879	857	629
45°	772	756	692	634	609	595
55°	537	520	472	416	394	481
65°	319	301	272	277	230	314
75°	128	119	112	106	117	137
85°	18	20	22	23	25	25
90°	0	0	0	0	0	



TEST NUMBER: P561235

CATALOG NUMBER: FSR-12-4-LD4-1STD-40-UNV-82-85-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1557.7	1557.7	1557.7	1557.7	1557.7
2.5°	1546.9	1546.9	1546.9	1545.1	1545.1
5°	1530.7	1528.9	1528.9	1527.1	1527.1
7.5°	1518.1	1516.3	1514.5	1512.7	1509.1
10°	1500.1	1500.1	1498.3	1489.3	1487.5
12.5°	1471.3	1469.5	1462.3	1449.7	1446.1
15°	1431.6	1431.6	1417.2	1402.8	1397.4
17.5°	1388.4	1386.6	1368.6	1354.2	1347.0
20°	1341.6	1338.0	1320.0	1296.6	1284.0
22.5°	1289.4	1289.4	1267.8	1237.2	1224.6
25°	1240.8	1233.6	1213.7	1170.5	1138.1
27.5°	1184.9	1174.1	1152.5	1091.3	1053.5
30°	1123.7	1118.3	1087.7	1008.5	979.6
32.5°	1066.1	1057.1	1024.7	941.8	918.4
35°	1006.7	999.5	950.8	878.8	857.2
37.5°	947.2	938.2	877.0	819.4	792.4
40°	887.8	877.0	810.4	758.1	729.3
42.5°	832.0	817.6	752.7	696.9	664.5
45°	772.5	756.3	691.5	633.9	608.7
47.5°	713.1	698.7	639.3	579.9	551.0
50°	650.1	637.5	583.5	524.0	493.4
52.5°	597.9	578.1	525.8	466.4	441.2
55°	536.6	520.4	471.8	416.0	394.4
57.5°	480.8	464.6	419.6	367.4	349.4
60°	428.6	405.2	367.4	322.3	307.9
62.5°	371.0	353.0	320.5	282.7	300.7
65°	318.7	300.7	271.9	277.3	230.5
67.5°	261.1	252.1	226.9	201.7	194.5
70°	212.5	201.7	192.7	165.7	158.5
72.5°	169.3	158.5	145.9	131.5	126.1
75°	127.9	118.9	111.7	106.2	117.1
77.5°	88.2	84.6	79.2	73.8	72.0
80°	57.6	55.8	54.0	52.2	50.4
82.5°	34.2	34.2	34.2	34.2	34.2
85°	18.0	19.8	21.6	23.4	25.2
87.5°	10.8	10.8	12.6	14.4	16.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)